



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 09/870,226  | 05/30/2001  | Kenneth L. Smith     | 54538USA7C012               | 9179             |
| 32692 7590 06/17/2004   |             |                      |                             |                  |
| 3M INNOVATIVE PROPERTIES COMPANY<br>PO BOX 33427<br>ST. PAUL, MN 55133-3427 |             |                      | EXAMINER<br>LONEY, DONALD J |                  |
|   |             |                      | ART UNIT<br>1772            | PAPER NUMBER     |

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/870,226

Applicant(s)

SMITH ET AL.

Examiner

Donald Loney

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2004.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 35-37 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-21 and 35-37 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/9/04  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on March 9, 2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Rowland 3810804 or 5376431 in view of Rowland et al 5512219.

Both primary references teach a retroreflective article comprising cube corner prisms coated with a reflective layer that has an adhesive there over. Refer to figure 3 in Rowland '804 showing prisms 12, reflective layer 30 and adhesive layer 32. Refer to figure 5 in Rowland '431 showing prisms 12, reflective layer 14 and adhesive layer 20. The primary references differ from the recited invention in that the prisms are

considered a positive array (i.e. protrude outwardly) instead of a negative array (i.e. form cavities as recited in the instant claims).

Rowland '219 teaches that cube corner prisms can be formed as a positive or negative array. Refer to column 2, lines 52-57 and column 4, lines 45-53.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to either primary reference to form the cube corner elements as a cavity, as taught by Rowland '219, in order to form a retroreflective negative structure motivated by the fact that the secondary reference discloses that either type of structure is known in the art.

4. Claims 15-21 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau et al 5735988 in view of Rowland 5512219.

Chau et al teaches to coat reflective prisms elements 30 with a metallized layer 40 and then provide a UV curable coating 50 there over. Refer to figure 1E and 1F along with column 6, lines 6-19. Chau et al does fail to specifically disclose the elements as cavities and shows them as outwardly projecting (i.e. positive type). Chau et al does teach that any other known type of surface topography can be substituted for the prisms. See column 5, lines 14-21.

Rowland '219 teaches that cube corner prisms can be formed as a positive or negative array. Refer to column 2, lines 52-57 and column 4, lines 45-53.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the Chau et al to form the elements as cavities since Rowland teaches either negative or positive type elements are known and motivated by

Art Unit: 1772

the fact that Chau et al teaches any other known type of element can be substituted for their positive elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Loney whose telephone number is (571) 272-1493. The examiner can normally be reached on Mon-Fri. 8AM-4PM, maxi-flex schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Donald Loney  
Primary Examiner  
Art Unit 1772

DJL:D.Loney  
06/11/04